The Risk Management Approach

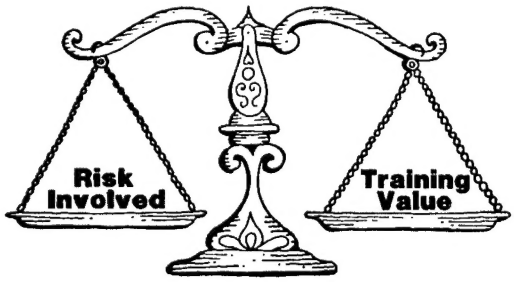
A concept for balancing risks with mission needs

April 1985

One of the most controversial issues associated with Army readiness concerns a perceived dichotomy between realistic training and safety. On one hand, commanders must conduct hard, tough, realistic training—to train as they will fight. On the other hand, they are critically aware that safety is paramount. This seems to be demanding the impossible, as if realistic training and safety are incompatible partners in a marriage destined to fail.

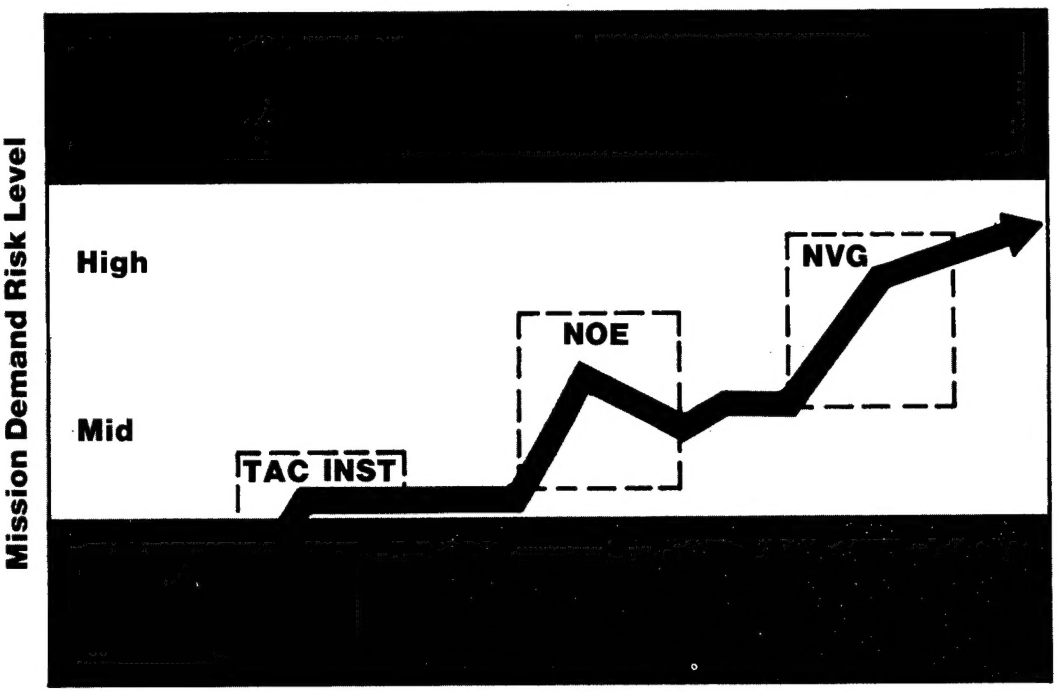
Basically, the problem lies in a failure to integrate the requirement for safety with the demand for realistic combat training. Each element is too often viewed separately, and, in the process, safety is erroneously seen as an inhibitor to training. Yet, nothing could be further from the truth. The fact is, effective realistic training can be conducted with an acceptable risk factor. Simply stated, safety is a by-product of risk reduction. A high degree of safety can be achieved through the systematic management of inherent mission risks.

Essentially, the risk management approach is the identification of risks associated with a particular operation and the requirement to weigh these risks against overall training value to be gained. Any increase in the level of difficulty in the mission produces a corresponding increase in the risk involved. To illustrate this point, let's examine, in a somewhat hypothetical sense, the evolution of the Army aviation mission. There was a low level of risk associated with the aviation mission of 20 years ago when, for example, we were flying relatively simplistic aircraft on observation missions at altitude, under VFR conditions. Then the mission was expanded to include tactical instrument flying in weather. This expansion of the mission profile produced a corresponding sharp increase in the level of inherent risks associated with mission demands. As



a concept for balancing risk with mission needs

The risk management concept discussed here is not aviation-unique. This concept will work equally as well in minimizing risk in ground operations.



Mission Profiles Over Time

proficiency in tactical instrument flying was gained, the risk factor leveled off. However, the risk level remained at a higher level than before.

Then the mission was expanded by the tactical requirement for NOE flying. Again, the level of training risks rose sharply, in direct proportion to the increase in the level of difficulty of the mission. The downward turn in risk level shown here could be the result of new, improved equipment coming into the system, for example, the twin engine UH-60. However, the overall risk level for sustained operations was still greater than before adopting NOE tactics.

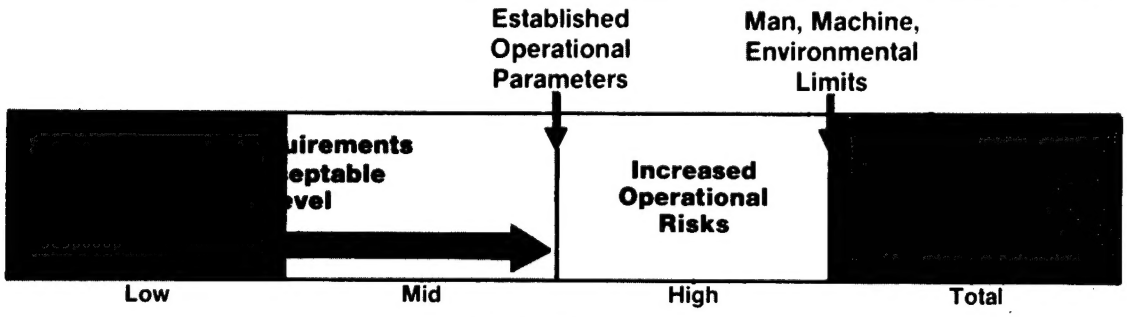
The mission has now been expanded by the requirement to fly with night vision devices. This requirement greatly increases demands placed on aircrews and equipment, producing a corresponding increase in training risks. However, the inherent risks associated with NVG flying continue to increase rather than leveling off, as in the case of tactical instrument flying, or decreasing, as in the case of NOE flying. The primary reason for the sustained risk increase in NVG flying is that tactical instrument flying and NOE flying were oriented toward specific tasks, conditions, and standards.

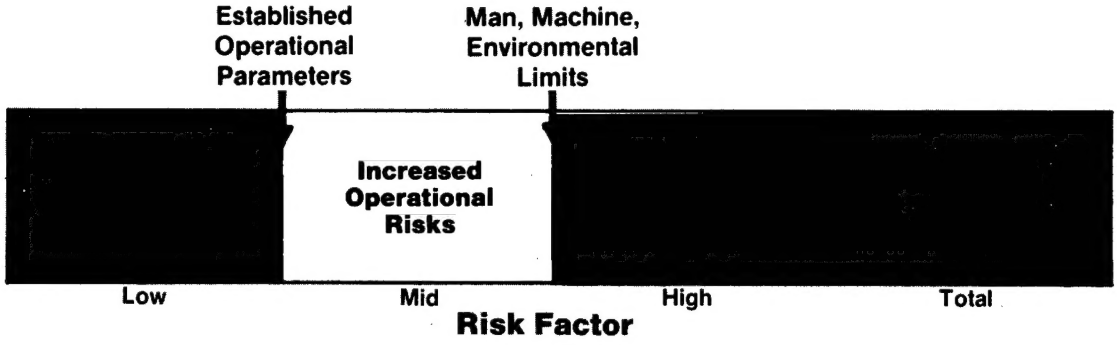
Night vision goggle flying, on the other hand, applies across the spectrum to a much broader range of more complex tasks, conditions, and standards.

As the aviation mission has become increasingly more demanding, the overall level of risk inherent in that mission has risen. This overall increase in level of risks puts greater demands on commanders—risk managers—to first minimize the risks inherent in an operation and secondly, to reconcile inherent risks with essential mission needs. Risk management is the term used to describe the systematic process for doing this. By applying this process, safety and mission never conflict; rather they are balanced at a point producing optimum overall benefit to the organization. The risk management process begins by clearly defining mission requirements and then establishing acceptable risk factors. This is done by identifying risks associated with mission operations and weighing them against the training benefit to be gained. The key is not accepting preventable risks. Preventable risk is risk that can be reduced or eliminated by establishing operational parameters within the constraints of existing resources and technology without unacceptable impediment of the mission. Operational parameters can be tailored by controlling the variables affecting the mission, for example, illumination levels, time standards, weather criteria, and so forth. Beyond these parameters, the risk level is unacceptable for noncombat operations.

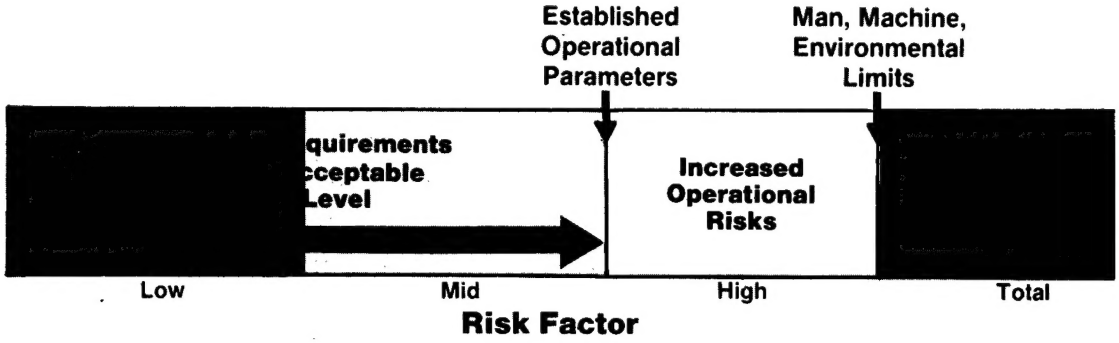
The Risk Management Process

1. **Risk Identification**
   This is risky, this isn't.
2. **Risk Evaluation and Quantification**
   The risk is this great.
3. **Risk Reduction**
   Risk can be reduced by this and this.
4. **Risk Decisionmaking**
   This risk we can live with, this we can't.
5. **Risk Decision Followup**
   Is the risk and benefit as projected?
6. **Risk Research**
   What is the risk? What risk is essential?





VIP Fixed Wing Flight Detachment



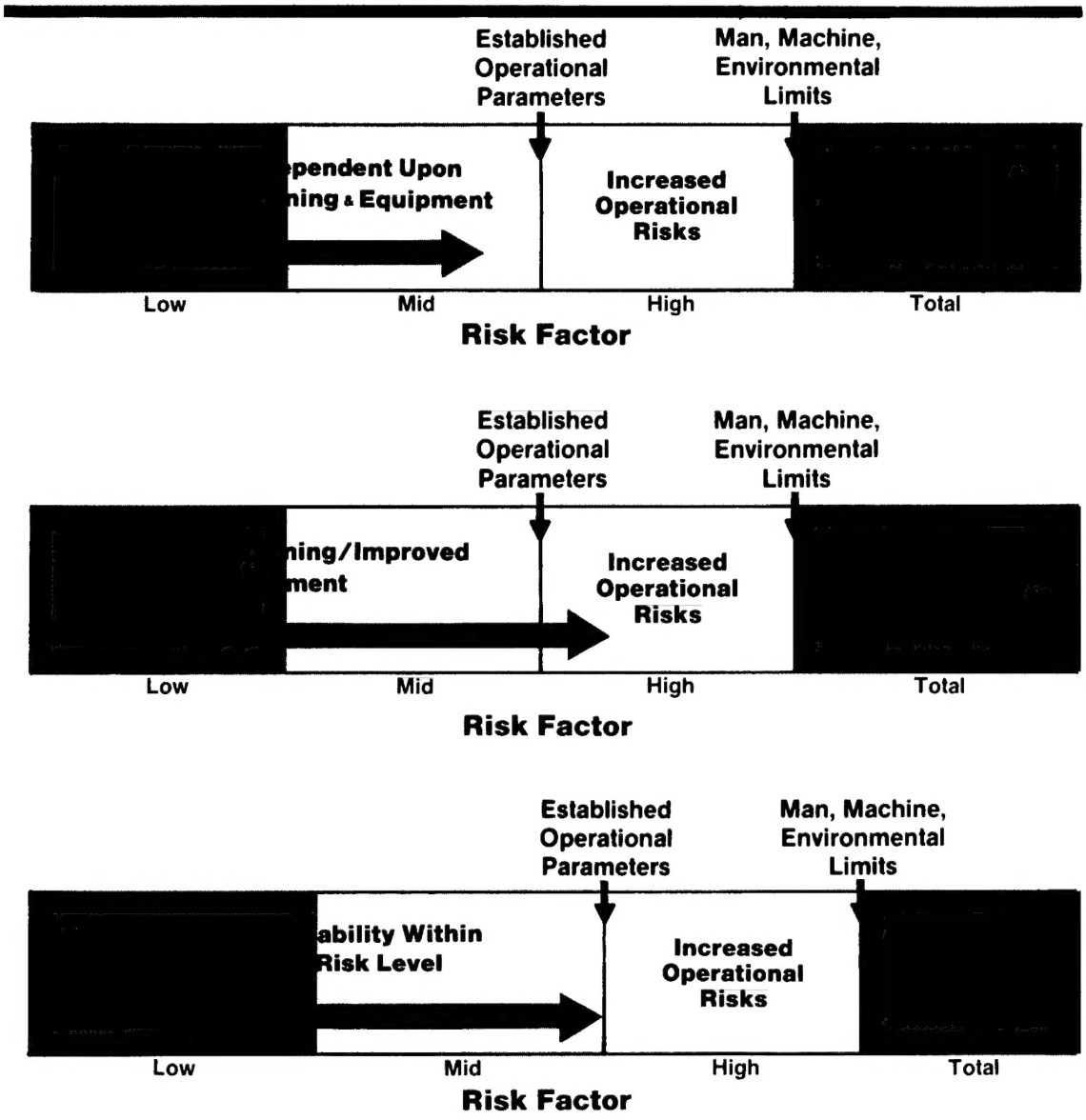
Attack Helicopter Company, Germany

Now let's apply this concept to a VIP fixed wing flight detachment. The unit mission generally does not warrant the acceptance of risk greater than "low." Most risk associated with the mission is preventable.

Let's apply the same process to an attack helicopter company in Germany. Based on mission demands, the level of acceptable risk is far greater. When an element of risk is unavoidable in accomplishing the training mission, commanders must establish realistic operational parameters which ensure that overall mission benefits clearly are warranted and clearly exceed the overall potential cost of the risk itself.

The key factor in detecting significant risk is to maintain a strong organizational mission perspective.

Let's now discuss the risk management concept payoff. Based on mission requirements, acceptable risk levels are



established. As unit proficiency increases due to training and/or improvements in equipment, operations within the green area of acceptable risk are expanded. Sustained training and improved technology provide an improved balance of risk. This improved capability will then allow the unit to expand operations into the high risk zone, beyond the operational parameters previously set for normal operations. Penetration into this zone of increased risk is knowingly and carefully done for a clearly predetermined training benefit essential to mission accomplishment. The further into the zone, the greater the risk. This in turn demands a higher level of risk management decision, more careful planning, and more stringent consideration of any controllable variables.

The level of the decision maker should correspond to the level of the risk. The greater the risk, the more senior the final decision maker should be. When in the high risk zone, everyone from commander to crew chief must be aware of the risk implications. By-the-book disciplined operations are mandatory. All controllable risk variables must be controlled.

Where we get into trouble from an accident standpoint is when the chain of command has not clearly established operational parameters within acceptable risk levels, and individual aviators must decide for themselves the level of risk they will accept; also in those cases where pilots willfully and knowingly violate established parameters and exceed acceptable risk levels.

Carefully planned operations in the high risk zone based on risk management decisions will give commanders an increased operational capability within acceptable risk levels. The risk management approach gives commanders as much capability as possible with the least amount of potential risk. However, the level of capability must be realistically assessed based on mission requirements. If the unit mission does not require the capability that would be gained from operating in the higher risk zone, the commander can cash in his improved proficiency as a result of sustained training and improvements in equipment for a higher margin of safety within the previously established levels of risk acceptance.

In conclusion, the problem is not one of choosing between realistic training and safety. We have no such choice to make. If we are to be capable of performing effectively in combat, we must have realistic training. By the same token, if we are to conserve our resources so we can perform our mission in combat, we must have safety. . . both in the combat environment and in tactical training.

Advantages of Risk Management for Command

- **Detect risks before losses**
- **Quantify risk**
- **Provide risk reduction alternatives**
- **Better management decisions**
- **Greater integration of safety**
- **Increased mission capability**

The risk management concept we have discussed was successfully applied while accomplishing the most demanding high-risk aviation mission in the Army. Hopefully, this concept will help resolve the perceived safety versus mission conflicts some commanders wrestle with today.

Ten tactics for better aviation operations

In-depth surveys of selected units, interviews with commanders and safety officers, and information from the Army Safety Management Information System show that units with successful safety programs share ten positive common denominators.

1. Direct command involvement and supervision of all flight operations.
2. Training tailored to specific mission requirements with aviation safety officer participation in planning phases.
3. Detailed briefing of every mission by the chain of command to ensure mission requirements and limitations are understood by all crewmembers.
4. Risk management practiced by everyone in the organization.
5. All risk factors identified and understood so good risk management decisions can be made.
6. Risk management decisions made at the proper level—the greater the risk, the higher the decision level.
7. Breaches of flight discipline not accepted by anyone in the organization.
8. High risk aviation personnel identified and eliminated.
9. Experienced aviators paired with the inexperienced.
10. Command attendance and participation in safety meetings that produce countermeasures.

These ten tactics pay big dividends by allowing high performance units to train smart and safe, achieving better mission results.

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